West Bengal syllabus for class 9 and 10, 2024

Secondary Curricula and Syllabi

Syllabus break-up and Number division for first, second and third summative evaluation

[Bengali and English version]

For Classes : IX & X

**Planned and prepared
by
Expert Committee on School Education**

West Bengal Board of Secondary Education

77/2, Park Street, Kolkata – 700 016

SUBJECT

HINDI

पाठ्यक्रम :- 2022

विषय हिन्दी

कक्षा - नवम्

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* प्रथम सत्र (Summative-I) :- साहित्य संचयन - पहला, एवं दूसरा पद्य, पहला एवं दूसरा गद्य।

(पूर्णांक-40)

सहायक पाठ - गुरुनानक, आचार्य जगदीशचन्द्र बोस।

व्याकरण - ध्वनि, हिन्दी शब्द भण्डार, सर्वनाम, विशेषण-विशेष्य।

रचना - भाव विस्तार।

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* द्वितीय सत्र (Summative-II) :- साहित्य संचयन - तीसरा एवं चौथा पद्य, तीसरा एवं चौथा गद्य।

(पूर्णांक-40)

सहायक पाठ :- गोपाल कृष्ण गोखले, लाला लाजपत राय।

व्याकरण :- उपसर्ग एवं प्रत्यय, क्रिया एवं धातु, संधि, शब्द एवं पद।

रचना :- भावार्थ, भावविस्तार।

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* तृतीय सत्र (Summative-III) :- साहित्य संचयन - पाँचवा, छठवाँ, सातवाँ एवं आठवाँ पद्य, पाँचवा, छठवाँ, सातवाँ एवं आठवाँ गद्य। * एकांकी - बहू की विदा।

(पूर्णांक-90)

सहायक पाठ - डॉ॰ राजेन्द्र प्रसाद, मौलाना अबुल कलाम आजाद।

व्याकरण - अव्यय, परसर्ग/अनुसर्ग, संधि (विसर्ग संधि), ध्वनि, क्रिया, सर्वनाम, हिन्दी शब्द भण्डार।

रचना - भावार्थ, भाव-पल्लवन, निबंध लेखन।

Subject : English

SYLLABUS — CLASS IX

Examination	Lessons, Grammar & Vocabulary, Writing skill	Marks
Ist Summative Evaluation	LESSONS:- 1, 2, 3, 4 GRAMMAR & VOCABULARY:- Articles and preposition verb forms, voice narration WRITING SKILL:- Dialogue writing - Ban the use of animals as circus attraction & Planning a picnic Story writing — sudden breakdown while returning from excursion by bus, The cat and the Monkey. Processing - preparation of orange juice, paper making Paragraph writing — Plan to take care of street dogs Autumn in Bengal. Biographies — Annie Basant & Sarvapalli Radhakrishnan	40
IInd Summative Evaluation	LESSONS:- 5, 6, 7 & 8 GRAMMAR & VOCABULARY:- Transformation of sentences - Simple, compound, complex, assertive, introgative affirmative, exclamatory and negative sentences. Phrasal verbs. Writing Skill:- Letter writing — seeking leave to visit ailing grandmother, narrating experience of visiting a wild life sanctuary, to the postmaster informing about the loss of an important letter, seeking leave to attend marriage ceremony, to the owner of the bookstore to find the book. Writing Report — report on a road accident and Annual sports P.T.O	40

III rd Summative Evaluation	LESSON :- 1 to 12 GRAMMAR & VOCABULARY :- Change the parts of speech. Kinds of clauses. Grammar and vocabulary of ~~sma~~ Summative Evaluation Ist & IInd Writing Skill :- Paragraph writing – The water cycle, on how your locality looks like at dawn. Summary writing. Writing Report – on the effect of devastating flood in your district on a boat capsize. Story writing – The monkey and the cats. Dialogue writing – Different experiences of your voyages. Letter writing – seeking leave of absence, enquiring about the availability of rooms in the hotel. Writing skill of summative Evaluation of Ist & IInd.

English (Second Language)

Class IX

Textbook : 'Bliss'

Contents :

Lesson	1	:	Tales of Bhola Grandpa — Manoj Das
	2	:	Autumn — John Clare
	3	:	All about a dog — A.G Gardiner
	4	:	A Day in the Zoo —Gerald Durrell
	5	:	All summer in a Day —Ray Bradbury
	6	:	Mild the Mist upon the Hill —Emily Jane Bronte
	7	:	Tom Loses a Tooth —Mark Twain
	8	:	His first flight —Liam O'Flaherty
	9	:	The North Ship —Philip Larkin
	10	:	The Price of Bananas —Mulk Raj Anand
	11	:	A Shipwrecked Sailor —Daniel Defoe
	12	:	Hunting Snake —Judith Wright

First Summative Evaluation : 40 marks (April)

Internal Formative Evaluation : 10 Marks

Textbook : 'Bliss'

Lesson	1	:	Tales of Bhola Grandpa — Manoj Das
	2	:	Autumn — John Clare
	3	:	All about a dog — A.G Gardiner
	4	:	A Day in the Zoo —Gerald Durrell

Second Summative Evaluation : 40 Marks (August)

Internal Formative Evaluation : 10 Marks

Textbook : 'Bliss'

Lesson	5	:	All summer in a Day —Ray Bradbury
	6	:	Mild the Mist upon the Hill —Emily Jane Bronte
	7	:	Tom Loses a Tooth —Mark Twain

8 : His first flight —Liam O'Flaherty

Third Summative Evaluation : 90 marks (December)

Internal Formative Evaluation : 10 Marks

Textbook : 'Bliss'

9 : The North Ship —Philip Larkin

10 : The Price of Bananas —Mulk Raj Anand

11 : A Shipwrecked Sailor —Daniel Defoe

12 : Hunting Snake —Judith Wright

Lessons 1 - 8 are to be included in the Third Summative Evaluation.

Grammar, Vocabulary and Writing items practised in classes IX are also to be included.

Syllabus and Evaluation Structure for English (Second Language)

Class IX

First Summative Evaluation : 40 marks **Internal Formative Evaluation :** 10 Marks

Textbook : 'Bliss'

Lesson 1 — 4

Second Summative Evaluation : 40 Marks **Internal Formative Evaluation :** 10 Marks

Textbook : 'Bliss'

Lesson 5 — 8

Third Summative Evaluation : 90 marks **Internal Formative Evaluation :** 10 Marks

Textbook : 'Bliss' — Complete book

Grammar and Writing items practised in classes IX are to be included.

Marks Distribution for First and Second Summative Evaluations

* Reading Skill (Seen) : 10 marks	**For Seen (Prose)**
* Reading Skill (unseen) : 10 marks	MCQ - 1 × 2 = 2
* Writing Skill : 10 marks	VSAQ - 1 × 2 = 2
* Grammar : 6 marks	SAQ - 2 × 1 = 2
* Vocabulary : 4 marks	**For Seen (Poem)**
	MCQ - 1 × 2 = 2
	VSAQ - 1 × 2 = 2
	For Unseen
	MCQ - 1 × 4 = 4
	VSAQ - 1 × 4 = 4
	SAQ - 2 × 1 = 2

Distribution of Marks and Question pattern for Third Summative Evaluation

Testing areas	MCQ 1 mark per question	Very short answer type question (VSAQ) 1 mark per question	Short answer question (SAQ) 2 mark per question	Long answer type questions (LAQ) 10 mark per question	Total marks
(A). Reading (Seen)	**Prose:-** No. of questions=5 **Total:1×5=5**	**Prose:-** No. of questions =3 **Total: 1×3=3**	**Prose:-** No. of questions =2 **Total: 2×2=4**		12
	Poetry: - **No. of** questions=4 **Total: 1×4=4**		**Poetry: -** No. of questions= 2 **Total: 2×2=4**	nil	8
(B) Reading (Unseen)	No. of questions=6 **Total:1×6=6**	No. of questions=3 **Total: (1+1)×3=6**	No. of questions= 4 **Total: 2×4=8**	nil	20
(C) Grammar & Vocabulary	No. of questions=3 **Total:1×3=3**	No. of questions = 9 **Total: 1×9=9**	No. of questions = 4 **Total: 2×4=8**	nil	20
(D) Writing	nil	nil	nil	No. of questions=3 **Total 10×3=30**	30
Total marks per question type	**18**	**18**	**24**	**30**	**Total: 90**

English (Second Language)

Class X

Textbook : 'Bliss'

Contents :

Lesson	1	:	Father's Help — R.K. Narayan
	2	:	Fable — Ralph Waldo Emerson
	3	:	The Passing Away of Bapu — Nayantara Sehgal
	4	:	My Own True Family — Ted Hughes
	5	:	Our Runaway Kite — Lucy Maud Montgomery
	6	:	Sea Fever — John Masefield
	7	:	The Cat — Andrew Barton Paterson
	8	:	The Snail — William Cowper

First Summative Evaluation : 40 marks (April)
Internal Formative Evaluation : 10 Marks

Textbook : 'Bliss'

Lesson	1	:	Father's Help — R.K. Narayan
	2	:	Fable — Ralph Waldo Emerson
	3	:	The Passing Away of Bapu — Nayantara Sehgal

Second Summative Evaluation : 40 Marks (August)
Internal Formative Evaluation : 10 Marks

Textbook : 'Bliss'

Lesson	4	:	My Own True Family — Ted Hughes
	5	:	Our Runaway Kite — Lucy Maud Montgomery
	6	:	Sea Fever — John Masefield

Third Summative Evaluation : 90 marks (December)
Internal Formative Evaluation : 10 Marks

Textbook : 'Bliss'

	7	:	The Cat — Andrew Barton Paterson
	8	:	The Snail — William Cowper

Lessons 1 - 6 are to be included in the Third Summative Evaluation.
Grammar, Vocabulary and Writing items practised in classes IX & X are also to be included.

Syllabus and Evaluation Structure for English (Second Language)

Class X

First Summative Evaluation : 40 marks **Internal Formative Evaluation :** 10 Marks

Textbook : 'Bliss'

Lesson	1	:	Father's Help — R.K. Narayan
	2	:	Fable — Ralph Waldo Emerson
	3	:	The Passing Away of Bapu — Nayantara Sehgal

Second Summative Evaluation : 40 Marks **Internal Formative Evaluation :** 10 Marks

Textbook : 'Bliss'

Lesson	4	:	My Own True Family — Ted Hughes
	5	:	Our Runaway Kite — Lucy Maud Montgomery
	6	:	Sea Fever — John Masefield

Third Summative Evaluation : 90 marks **Internal Formative Evaluation :** 10 Marks

Textbook : 'Bliss' — Complete book

Grammar, Rhetoric and Writing items practised in classes IX & X are also to be included.

Marks Distribution for First and Second Summative Evaluations

*	Reading Skill (Seen)	:	10 marks	**For Seen (Prose)**	
*	Reading Skill (Unseen)	:	10 marks	MCQ - 1 × 2	= 2
*	Writing Skill	:	10 marks	VSAQ - 1 × 2	= 2
*	Grammar	:	6 marks	SAQ - 2 × 1	= 2
*	Vocabulary	:	4 marks	**For Seen (Poem)**	
				MCQ - 1 × 2	= 2
				VSAQ - 1 × 2	= 2
				For Unseen	
				MCQ - 1 × 4	= 4
				VSAQ - 1 × 4	= 4
				SAQ - 2 × 1	= 2

Distribution of Marks and Question pattern for Third Summative Evaluation / Selection Test

Testing areas	MCQ 1 mark per question	Very short answer type question (VSAQ) 1 mark per question	Short answer question (SAQ) 2 mark per question	Long answer type questions (LAQ) 10 mark per question	Total marks
(A). Reading (Seen)	**Prose:-** No. of questions=5 **Total:1×5=5**	**Prose:-** No. of questions =3 **Total: 1×3=3**	**Prose:-** No. of questions =2 **Total:2×2=4**		12
	Poetry: - No. of questions=4 **Total: 1×4=4**		**Poetry: -** No. of questions= 2 **Total: 2×2=4**	nil	8
(B) Reading (Unseen)	No. of questions=6 **Total:1×6=6**	No. of questions=3 **Total: (1+1)×3=6**	No. of questions= 4 **Total: 2×4=8**	nil	20
(C) Grammar & Vocabulary	No. of questions=3 **Total:1×3=3**	No. of questions = 9 **Total: 1×9=9**	No. of questions = 4 **Total: 2×4=8**	nil	20
(D) Writing	nil	nil	nil	No. of questions=3 **Total 10×3=30**	30
Total marks per question type	**18**	**18**	**24**	**30**	**Total: 90**

* This question pattern is indicative of Madhyamik Examination.

বিষয় : গণিত

Subject : Mathematics

Mathematics

Class IX

Syllabus

1. Real Numbers :

- (i) Concept of natural numbers, whole numbers, Integers, Rational Numbers, Algebric numbers.
- (ii) Conversion of rational numbers to decimal number
- (iii) Representing real numbers on the number line.
- (iv) Addition, Subtraction, Multiplication, Division of real numbers.
- (v) Concept of the axioms on real numbers and solution of simple practical problems using that axioms.

2. Laws of Indices

- (i) Concept of base, index, root, power.
- (ii) Concept of index as integers, fractions.
- (iii) Fundamental laws of indeces and their applications.
- (iv) Equation and Identity on indices

3. (i) Concept of right angular cartesion plane and co-ordinates.

- (ii) Concept of co-ordinates of point and represent it on cartesion plane.
- (iii) Concept of linear equations with one variable and two variables and the drawing of their graphs.
- (iv) Solution of linear simultaneous equations by graph. Concept of one solution, many solutions and no solution.

4. Co-ordinate geometry (Distance formula)

- (i) Concept of the formula of distance between two points on a cartesion plane and its application.

5. Linear simultaneous equations (with two variables)

- (i) Solution of liner simultaneous equations (Elimination, Comparison, Substitutions and cross-multiplication method.
- (ii) Solution of practical problems of linear simultaneous equation.

6. Properties of parallelogram

- (i) Concept of quadrilaternal, trapezium, parallelogram, rectangle, square and rhombus.
- (ii) Opposite sides and opposite angles of a parallelogram are equal and each diagonal divides it into two congruent triangles.—proof
- (iii) The diagonals of a parallelogram bisect each other. —proof
- (iv) If the opposite sides of a quadrieateral are equal then the quadrilateral is a parallelogram—proof.
- (v) If the opposite angles of quadrilateral are equal then the quadrilateral is a parallelogram—proof.
- (vi) If a pair of opposite sides of a quadrilateral are equal and parallel then the quadrilateral is a parallelogram—proof.
- (vii) If the diagrals of a quadrilateral bisect each other then the quadrilateral is a parallelogram—proof
- (viii) Applications of the above statements.

7. Polynomials:

- (i) Concept of polynomials of one or more than one variables
- (ii) Concept of addition, subtraction, multiplication and division of polynomials
- (iii) Concept of functions from polynomial
- (iv) Concept of zero of polyamials
- (v) Remainder theorem

(vi) Factor theorem

(vii) Concept of zero polynomial

(viii) Application of each of the above concepts

8. **Factorisation :** $a^2 - b^2$, $a^3 + b^3$, $a^3 - b^3$, $a^3+b^3+c^3-3abc$, vanishing method

9. **Theorems on transvarsal and mid-point :**

(i) The line-segment joining the mid-points of any two sides of a triangle is paralled to and half of the third side–proof.

(ii) The straight line drawn through the mid-point of a side of a triangle paralleled to second side bisects the third side and the intercept thus obtained from the paralleled straight line by two sides of the triangle is half of the second side—proof.

(iii) If the lengths of the intercepts made by three or more parallel straight lines on a transversal are equal, then the lengths of the intercepts made by them on any other transversal will also be equal—No proof is required, only verification

(iv) Application of the above statements

10. **Profit & Loss :** Concept and application of Cost-price, selling-price, Profit, Loss, Marked price, percentage of profit and loss on selling-price, Discount, Equivalent discount etc.

11. **Statistics :**

(i) Concept of tabulation of data.

(ii) Concept of formation of frequency distribution table.

(iii) Concept of cumulative frequency.

(iv) Construction of Histogram.

(v) Construction of frequency Polygon.

12. **Theorems involving area**

Concept of the Axiom :Area of a rectangle = length × breath

(i) "Parallelograms on the same base and between the same parallel are equal in area"—proof

(ii) Parallelograms on the equal bases and between the same parallels are equal in area. [Corollary]

(iii) Area of a parallelogram = Base of the parallelogram × Height [Corollary]

(iv) If a triangle and a parallelogram are on the same base and between the same parallels, the area of the triangle is half that of the parallelogram. — Proof

(v) Area of a triangle = ½ × Base × Height [Corollary]

(vi) Triangles on the same base and between the same parallels are equal in area — Proof.

(vii) Triangles on equal bases and between the same parallels are equal in area. [Corollary]

13. **Construction :** Construction of a parallelogram whose measurement of one angle is given and equal in area to a triangle and its application.

14. **Construction :** Construction of a triangle equal in area to a quadrilateral and its application.

15. **Determination of the perimeter and area of a triangle and quadrilateral :**

(i) Determination of the perimeter and area of a triangle. Concept of Heron's formula.
Application in practical problems.

(ii) Determination of the perimeter and area of Rectangle, Square, Parallelogram, Rhombus,
Trapezium and application in practical problems.

16. **Circumference of Circle :** Ditermination of the circumference of circle. Concept of π and solution of practical problems using the formula of circumference of circle.

17. Concurrent : Theorems on Concurrence.

(i) The perpendicular bisectors of the sides of a triangle are concurrent. — Proof. concept of Circum centre, Circum radius, Circum circle.

(ii) The perpendiculars on the sides of a triangle from its opposite vertices are concurrent – Proof.

(iii) The internal bisectors of the angles of a triangle are concurrent. — Proof. Concept of in-centre, in-radius and in-circle.

(iv) The medians of a triangle are concurrent. Proof. Concept of centroid and centroid divides each memedian in the ratio 2 : 1.

(v) Applications of the above Statements.

18. Area of circular region : Concept of the formula of the area of a circular region, concept of the formula of the area of Sector of a Circle and Solution of practical problems.

19. Co-ordinate Geometry : Concept of the determination of formula of coordinates of a point when a Straight line Segment is divided internally or externally in a given ratio.

20. Co-ordinate Geometry :

(i) Area of triangular region formed by three points.

(ii) Area of quadrilateral shaped region formed by four point.

(iii) Condition of collinearity of three points.

(iv) Determination of the centroid of a triangle.

21. Logarithm :

(i) Necessity

(ii) Definition

(iii) Concept of Common Logarithm and Natural Logarithm.

(iv) Properties of Logarithm

(v) Application of Common Logarithm

Addenda : (Not for Evaluation)

22. Concept of Set theory.

23. Concept of Probability theory.

Summative - I (40 Marks) (Time : April) and Formative (10 Marks)

1 Real Numbers

2 Laws of Indices

3 Graph

4 Co-ordinate Geometry : Distance Formula

5 Linear Simultaneous Equations

6 Properties of Parallelogram

7 Polynomial

8 Factorisation

Summative - II (40 Marks) (Time : August) and Formative (10 Marks)

4 Co-ordinate Geometry : Distance Formula

5 Linear Simultaneous Equations

6 Properties of Parallelogram

9 Transversal & Mid-Point Theorem

10 Profit and Loss

11 Statistics

12 Theorems on Area

13 Construction: (Construction of a Parallelogram whose measurement of one angle is given and equal in area of a Triangle)

14 Construction : (Construction of a Triangle equal in area of a quadrilateral)

15 Area & Perimeter of Triangle & Quadrilateral shaped region.

16 Circumference of Circle

Summative - III (90 Marks) (Time : December) and Formative (10 Marks)

17 Theorems on concurrence

18 Area of circular region

19 Co-ordinate Geometry: Internal and External Division of Straight Line Segment

20 Co-ordinate Geometry: Area of Triangular Region

21 Logarithm

N.B.- Lessons included in the first two summative evaluations are to be included in the third summative evaluation.

Question Pattern & Allotment of Marks for 1st Summative Evaluation

[Summative-I (Chapters 1 to 8)]

Subjects	Very short answer type questions	Short answer type questions	Long answer type questions	Total Marks	Chapters
Arithmatic	1 (1×1)	2 (2×1)	3 (3×1)	6	1
Ajgebra	3 (1×3)	8 (2×4)	9 (3×3)	20	2,3,5,7,8
Geometry	1 (1×1)	2 (2×1)	7 (4×1 +3×1)	10	6
Coordinate geometry	1 (1×1)	-	3 (3×1)	4	4
Total Marks	**6**	**12**	**22**	**40**	
	6 + 12 = 18				

Internal formative Evaluation : 10 Marks

Very short answer type questions 1. Multiple choice questions 2. True/False 3. Fill in the blanks		
Arithmetic :	Real Number	One question = 1 Mark
Algebra :	(i) Laws of indices	One question = 1 Mark
	(ii) Polynomial	One question = 1 Mark
	(iii) Graph	One question = 1 Mark
Geometry :	Properties of Parallelogram	One question = 1 Mark
Coordinate Geometry :	Distance Formula	One question = 1 Mark

short answer type questions		
Arithmetic :	Real Number	One question = 2 Marks
Algebra :	(i) Laws of indices/Polynomial	One question = 2 Marks
	(ii) Graph	One question = 2 Marks
	(iii) Linear Simultaneous equations	One question = 2 Marks
	(iv) Factorisation	One question = 2 Marks
Geometry :	Properties of Parallelogram	One question = 2 Marks

Long answer type questions		
Arithmatic :	Real Number	One question = 3 Marks
Algebra :	(i) Graph	One question = 3 Marks
	(ii) Linear Simultaneous equations	One question = 3 Marks
	(iii) Factorisation	One question = 3 Marks
Geometry :	Properties of Parallelogram	One out of two Theorems = 4 Marks
	Application of theorems in solving geometrical problems	= 3 Marks
Coordinate Geometry :	Distance Formula	One question = 3 Marks

Question Pattern & Allotment of Marks for 2nd Summative Evaluation

[Summative-II (Chapters 4, 5, 6, 9 to 16)]

Subjects	Very short answer type questions	Short answer type questions	Long answer type questions	Total Marks	Chapters
Arithmatic	1 (1×1)	2 (2×1)	3 (3×1)	6	10
Algebra	-	-	3 (3×1)	3	5
Geometry	1 (1×1)	2 (2×1)	11 (4×1 + 3×1 + 4×1)	14	6,9,12,13,14
Coordinate Geometry	1 (1×1)	2 (2×1)	-	3	4
Mensuration	1 (1×1)	2 (2×1)	6 (3×2)	9	15, 16
Statistics	-	2 (2×1)	3 (3×1)	5	11
Total Marks	**4**	**10**	**26**	**40**	
		4 + 10 = 14			

Internal formative Evaluation : 10 Marks

Very short answer type questions 1. Multiple choice questions 2. True/False 3. Fill in the blanks		
Arithmetic :	Profit and loss	One question = 1 Mark
Geometry :	Properties of Parallelogram	One question = 1 Mark
Coordinate Geometry :	Distance Formula	One question = 1 Mark
Mensuration :	Perimeter and Area of Triangle and Quadrilateral	One question = 1 Mark

short answer type questions		
Arithmetic :	Profit and loss	One question = 2 Marks
Geometry :	Transversal and mid point theorems /theorems of Area	One question = 2 Marks
Coordinate Geometry :	Distance Formula	One question = 2 Marks
Mensuration :	Circumference of Circle	One question = 2 Marks
Statistics :		One question = 2 Marks

Long answer type questions		
Arithmatic :	Profit and loss	One question = 3 Marks
Algebra :	Linear Simultaneous equations (Method of elemination/substitution)	One question = 3 Marks
Geometry :		One out of two Theorems = 4 Marks
	Application of theorems in solving geometrical problems	= 3 Marks
	Construction	One Question = 4 Marks
Mensuration :	(i) Perimeter and Area of Triangle and Quadrilateral	One question = 3 Marks
	(ii) Circumference of Circle	One question = 3 Marks
Statistics :		One question = 3 Marks

Question Pattern & Allotment of Marks for 3rd Summative Evaluation

Subjects	Multiple Choice questions	Short answer type questions	Long answer type questions**	Total
Arithmetic	2 (1×2)	4 (2×2)	4	10
Algebra	5 (1×5)	8 (2×4)	22	35
Geometry	2 (1×2)	4 (2×2)	11	17
Co-ordinate Geometry	1 (1×1)	2 (2×1)	3	6
Mensuration	2 (1×2)	4 (2×2)	6	12
Statistics	2 (1×2)	4 (2×2)	4	10
Total Marks	**14**	**26**	**50**	**90**
		14 + 26 = 40		

Internal Formative Evaluation : 10 marks

** **Long answer type questions.**

Arithmetic (i) Real numbers (ii) Profit and loss	Answer one question out of two questions = 4 Marks
Algebra	
(i) Polynomials	Answer one question out of two questions = 3 Marks
(ii) Factorisation	Answer one question out of two questions = 3 Marks
(iii) Graph	Answer one question out of two questions = 4 Marks
(iv) Solve (linear simultaneous equations)	Answer one question out of two questions = 3 Marks
(v) Application of Linear simultaneous equations in real life problems	Answer one question out of two questions = 3 Marks
(vi) Laws of Indices	Answer one question out of two questions = 3 Marks
(vii) Logarithm	Answer one question out of two questions = 3 Marks
Statistics	Answer one question out of two questions = 4 Marks
Geometry	Proof one theorem out of two theorems = 4 Marks
	Application of theorems in solving geometrical problems = 3 Marks (Answer one question out of two questions)
	Construction (Answer one question out of two questions) = 4 Marks
Co-ordinate Geometry	Answer one question out of two questions = 3 Marks
Mensuration	Answer two questions out of three questions= 3×2 Marks = 6 Marks

Mathematics
Class X

Syllabus

1. Quadratic equation in one variable

i) Concept of quadratic equation in one variable
ii) Concept of quadratic equation in one variable $ax^2+bx+c=0$ (a,b,c are real numbers and $a\neq0$)
iii) Solution of quadratic equation with the help factorization. (Roots are rational numbers.)
iv) Solution of quadratic equation by expressing perfect square.
v) Concept of Sridhara Acharyya's formula.
vi) Concept about the nature of roots.
vii) Concept of construction of a quadratic equation in one variable if roots are known.
viii) Solution of real problems of quadratic equation in one variable.

2. Simple Interest

i) Concept of principal, interest, rate of interest in percent per annum, amount, time.
ii) Concept of the formula ($I = \frac{prt}{100}$)
iii) Concept of solution of different real problems.

3. Theorems related to circle.

i) In the same circle or in equal circles, equal chords intercept equal arcs and subtend equal angels at the centre (Proof is not necessary)
ii) In the same circle or in equal circles, the chords which subtend equal angles at the centre are equal (proof is not necessary).
iii) One and only one circle can be drawn through three non-collinear points. (Proof is not necessary)
iv) If a line drawn from the centre of any circle bisects the chord, which is not a diameter, will be a perpendicular on the chord— proof.
v) A perpendicular drawn from the centre of a circle on a chord, which in not a diameter, bisects the chord - proof.
vi) Application of above statements.

4. Rectangular Parallelopiped or Cuboid

i) Concept of the things of the shape of retanglular parallelopiped and cube which are seen in real life.
ii) Concept of the number of the surfaces, edges, vertices and diagonals.
iii) Concept of formation of formula of total surface area.
iv) Concept of formation of formula of volume.
v) Concept of formation of formula of the length of a diagonal.
vi) Concept of solution of different real problems.

5. Ratio and proportion

i) Concept of ratio and proportion in Algebra.
ii) Concept of different types of ratio and proportion
iii) Concept of application of different proportional properties in the problems related to proportion

6. Compound Interest (upto 3 years) and uniform rate of increase or decrease

i) Concept of difference in simple interest and compound interest.
ii) Concept of formation of formula if the compound interest is given yearly, half-yearly and quarterly.
iii) Concept of solution of different real problems.

iv) Concept of formula formation of uniform rate of increase or decrease from the formula of compound interest.

v) Concept of solution of real problems.

7. Theorems related to angles in a circle

i) Concept of angle subtended at the centre and in the circle

ii) The angle subtended at the centre by an arc is twice that of an angle subtended in the circle– proof

iii) In any circle, angles in the same segment are equal—proof.

iv) Angle in a semicircle is a right-angle — proof.

v) If a straight line segment makes equal angles at the two points situated on the same side of it, then the four points are concylic. (proof is not necessary)

vi) Application of above statements.

8. Right Circular Cylinder

i) Concept of right circular cylinders which are seen in real life.

ii) Concept of curved surface and plane surface of a right circular cylinder.

iii) Concept of formula formation of curved surface area.

iv) Concept of formula formation of total surface area.

v) Concept of formula of volume.

vi) Concept of solution of real problems of different types.

9. Quadratic Surd

i) Concept of irrational numbers.

ii) Concept of quadratic Surds.

iii) Concept of pure, mixed, like and unlike quadratic Surds

iv) Concept of rationalising factor

v) Concept of rationalising factor of denominator.

vi) Concept of addition, subtraction, multiplication and division of quadratic surds.

vii) Concept of solution of different real problems of quadratic surds.

10. Theorems related to cyclic quadrilateral

i) The opposite angles of a cyclic quadrilaterals are supplementary to each other– proof

ii) If the opposite angles of a quadrilateral are supplementary to each other, then the vertices of quadrilateral are concyclic– (Proof is not necessary).

iii) Application of above statements.

11. Construction : Construction of circumcircle and incircle of a triangle.

i) Construction of circumcircle of a given triangle.

ii) Construction of incircle of a given triangle.

iii) Construction of a circle about a given triangle (proof is not included in Evaluation)

12. Sphere

i) Concept of a solid with the shape of sphere and hemisphere which are seen in real life.

ii) Concept of surfaces of sphere and hemisphere.

iii) Concept of curved surface area of a sphere

iv) Concept of curved surface area and total surface area of a hemisphere.

v) Concept of volumes of sphere and hemisphere.

vi) Concept of solution of different real problems.

13. Variation

i) Concept of simple variation, inverse variation and compound variation.

ii) Concept of different problems related to variation, inverse variation and solution of real problems.

14. Partnership Business

i) Concept about partnership business
ii) Concept of simple and mixed partnership business.
iii) Concept about principal.
iv) Concept of distribution of dividend
v) Application of ratio in different real problems related to partnership business.

15. Theorems related to Tangent to a circle.

i) Concept of tangent and transversal of a circle.
ii) The tangent and the radius passing through the point of contact are perpendicular to each other — proof
iii) If two tangents are drawn from an external point, then the two line segments joining external point and point of contact are equal and they make equal angles at the centre— proof.
iv) Concept of direct common tangent and transverse common tangent.
v) If two circles touch each other, then two centres of two circles and point of contact are collinear– proof.
vi) Application of above statements.

16. Right circular cone.

i) Concept of right circular conical solids which are seen in real life.
ii) Concept of curved surface and plane surface of a right circular cone.
iii) Concept of curved surface area of a right circular cone.
iv) Concept of total surface area of a right circular cone.
v) Concept of volume of a right circular cone.
vi) Solution of different real problems.

17. Construction : Construction of tangent to a circle.

i) Concept of construction of tangent of a circle to a point on the circle.
ii) Concept of construction of two tangents to a circle from an cxternal point.

18. Similarity

i) Concept of similar geometric figures.
ii) A line drawn parallel to any side of a triangle divides other two sides or extended two sides proportionally (proof is not, necessary.)
iii) If any straight line divides two sides or extended two sides of a triangle proportionally, then the straight line will be parallel to third side. (proof is not necessary)
iv) If two triangles are similar, their corresponding sides are proportioal (proof is not necessary)
v) If the sides of two triangles are proportional then their corresponding angles are equal. (proof is not necessary)
vi) In two triangles, if an angle of one is equal to an angle of the other and the adjacent sides of the angles are proportional, then the two triangles are similar. (proof is not necessary)
vii) If in a right angled triangle, a perpendicular is drawn from its angular point to its hypotenuse, then the two triangles obtained are similar with original triangle and they are similar to each other– proof
viii) Applications of above statements.

19. Problems related to different soild objects.

i) Solution of real problems related to different soild objects (rectangular parallelopiped, right circular cylinder, sphere, hemisphere, right circular cone)

20. Trigonometry : concept of measurement of angle.

i) Evolution, growth and explanation of necessity of trigonometry in reality.

ii) Concept of positive and negative angles.

iii) Concept of measurement of angle.

iv) Concept of sexagesimal system and circular system, concept of their relations and application in different problems.

21. Construction : Determination of mean proportional.

i) Determination of mean proportional of two line segments in geometric method.

ii) Construction of a square whose area is equal to a rectangle.

iii) Construction of a square with area equal to a triangle.

22. Pythagoras theorem

i) Pythagoras theorem – proof.

ii) Converse of Pythagoras theorem – proof.

iii) Applications of above theorem.

23. Trigonometric Ratios and Trigonometric Identities.

i) Concept of different trigonometric ratios with respect to a right angled triangle.

ii) Concept of relations among different trigonometric ratios.

iii) Determination of the values of trigonometric ratios of some standard angles (0°, 30°, 45°, 60°, 90°) and concept of applications in different problems.

iv) Concept of applications of trigonometic ratios in different problems.

v) Concept of elimination of an angle (viz. θ) from trigonometric ratios.

24. Trigonometric Ratios of complementary angle

i) Concept of complementary angle.

ii) Concept of trigonometric ratios of a complementary angle of an angle and concept of solution of different problems.

25. Application of Trigonometric Ratios : Heights and Distances

i) Concept of angle of elevation and angle of depression.

ii) Concept of solution of real problems by trigonometric method with the help of right angled triangle, angle of elevation and angle of depression.

26. Statistics : Mean, Median, Ogive, Mode.

i) Concept of measures of central tendency.

ii) Concept of average or mean.

iii) Concept of three methods for determination of mean (a) direct method, (b) short method (c) standard deviation.

iv) Concept of needs of determination of median.

v) Concept of the formula require to determine median and concept of solution of different real problems.

vi) Concept of cumulaive frequency curved line or ogive.

vii) Concept of determination of median from ogive.

viii) Necessity for determination of mode.

ix) Concept of determination of formula for mode and concept of solution of different real problems.

x) Concept of relations among mean, median and mode.

First summative Evaluation (40 Marks) (Month : April), Internal Formative Evaluation : (10 Marks)

1 Quadratic Equations with one variable
2 Simple Interest
3 Theorems related to circle
4 Rectangular Parallelopiped or Cuboid
5 Ratio and Proportion
6 Compound Interest and Uniform Rate of Increase or Decrease
7 Theorems related to Angles in a Circle
8 Right Circular Cylinder
9 Quadratic Surd
10 Theorems related to Cyclic Quadrilateral

Second summative Evaluation (40 Marks) (Month : August), Internal Formative Evaluation : (10 Marks)

1 Quadratic Equations with one variable
11 Construction : Construction of circumcircle and incircle of a triangle
12 Sphere
13 Variation
14 Partnership Business
15 Theorems related to Tangent to a Circle
16 Right Circular Cone
18 Similarity

Third summative Evaluation (40 Marks) (Month : December), Internal Formative Evaluation : (10 Marks)

17 Construction : Construction of tangent to a circle.
19 Real life Problems related to different Solid Objects
20 Trigonometry : Concept of Measurment of Angle
21 Construction : Determination of Mean Proportional
22 Pythagoras Theorem
23 Trigonometric Ratios and Trigonometric Identities
24 Trigonometric Ratios of Complementrary angle
25 Application of Trigonometric Ratios : Heights & Distances
26 Statistics : Mean , Median , Ogive , Mode

N.B.- Lessons included in the first two summative evaluations are to be included in the third summative evaluation.

Marks distribution of first summative Evaluation

(Summative-I)

Subject	MCQ	SA	LA**	Total Marks
Arithmetic	2 (1×2)	2 (2×1)	5 (5×1)	9
Algebra	2 (1×2)	2 (2×1)	10 (3+4+3)	14
Geometry	2 (1×2)	4 (2×2)	5 (5×1)	11
Mensuration	-	2 (2×1)	4 (4×1)	6
Total Marks	**6**	**10**	**24**	**40**
	6 + 10 = 16			

Internal Formative Evaluation : 10 Marks

** **L.A.**

Arithmetic (i) Simple interest (ii) Compound interest (iii) Uniform rate of increase or decrease	1 out of 2 questions : 5×1 marks = 5 marks
Algebra (i) Solution of Quadratic equation in one variable	1 out of 2 questions : 3×1 marks = 3 marks
(ii) Application of quadratic equation in real problems [Construction of equation and solution]	1 out of 2 questions : 4×1 marks = 4 marks
(iii) Ratio and proportion (iv) Quadratic Surd	1 out of 2 questions : 3×1 marks= 3 marks
Geometry (i) Theorem related to circle (ii) Theorem related to angle on a circle (iii) Theorems related to cyclic quadriateral	Theorem — 1 out of 2 questions : 5×1 marks = 5 marks
Mensuration (i) Cuboid (ii) Right circular cylinder	1 out of 2 questions : 4×1 marks = 4 marks

Marks distribution of second summative Evaluation

(Summative-II)

Subject	MCQ	SA	LA**	Total Marks
Arithmetic	1 (1×1)	-	5 (5×1)	6
Algebra	2 (1×2)	2 (2×1)	3 (3×1)	7
Geometry	2 (1×2)	2 (2×1)	13 (5+5+3)	17
Mensuration	2 (1×2)	4 (2×2)	4 (4×1)	10
Total Marks	**7**	**8**	**25**	**40**
	7 + 8 = 15			

Internal Formative Evaluation : 10 Marks

** **L.A.**

Arithmetic

(i) Partnership business —— 1 out of 2 questions : 5×1 marks = 5 marks

Algebra

(i) Variation
(ii) Quadratic equation in one variable } —— 1 out of 2 questions : 3×1 marks = 3 marks

Geometry

(i) Theorems related to tangent to a circle
(ii) Theorems related to similarity } Theorem —— 1 out of 2 questions : 5×1 marks = 5 marks

(iii) Construction of circumcircle and incircle of a triangle } Construction —— 1 out of 2 questions : 5×1 marks = 5 marks

(iv) Application —— 1 question : 3×1 marks = 3 marks

Mensuration

(i) Sphere
(ii) Right circular cone } —— 1 out of 2 questions : 4×1 marks = 4 marks

Marks distribution of Third Summative Evaluation/Selection Test

(Summative-III)

Subject	MCQ	VSA		SA	LA **	
	(1×6)	Fill in the blanks 5 out of 6 (1×5)	True or False 5 out of 6 (1×5)	10 out of 12 (2×10)		
Arithmetic	1	1	1	4 (2×2)	5 (5×1)	
Algebra	1	1	1	4 (2×2)	9 (3+3+3)	
Geometry	1	1	1	6 (2×3)	13 (5+3+5)	
Trigonometry	1	1	1	4 (2×2)	11 (3+3+5)	
Mensuration	1	1	1	4 (2×2)	8 (4+4)	
Statistics	1	1	1	2 (2×1)	8 (4+4)	
Total Marks	**6**	**5**	**5**	**20**	**54**	**90**
	6 + 5 + 5 + 20 = 36					

** LA

Internal Formative Evaluation : 10 Marks

Arithmetic

(i) Simple interest
(ii) Compound interest and uniform rate of increase or decrease
(iii) Partnership business

} 1 out of 2 questions : 5×1 marks = 5 marks

Algebra

(i) Quadratic equation in one variable —— 1 out of 2 questions : 3×1 marks = 3 marks
(ii) Variation
(iii) Quadratic Surd
} —— 1 out of 2 questions : 3×1 marks = 3 marks
(iv) Ratio and proportion —— 1 out of 2 questions : 3×1 marks = 3 marks

Geometry

1 out of 2 theorems : 5×1 marks = 5 marks
Application of theorem for the solution of geometric problems– 1 out of 2 questions : 3×1 marks = 3 marks
Construction : 1 out of 2 questions : 5×1 marks = 5 marks

Trigonometry

(i) Concept of measurement of angle
(ii) Trigonometric Ratio and Trigonometric Identities
(iii) Trigonometric Ratios of complementary angle
} —2 out of 3 questions : 3×2 marks = 6 marks
(iv) Application of Trigonometric Ratios:Heights & Distances– 1out of 2 questions: 5×1marks=5marks

Mensuration

(i) Cuboid
(ii) Right circular cylinder
(iii) Sphere
(iv) Right circular cone
(v) Problems related to different solid objects
} —2 out of 3 questions : 4×2 marks = 8 marks

Statistics

Mean, Median, Ogive, Mode ——2 out of 3 questions : 4×2 marks = 8 marks

N.B :This question pattern is indicative of Madhyamik Examination.

বিষয় : ভৌতবিজ্ঞান ও পরিবেশ

Subject : Physical Science and Environment

Physical Science and Environment

Class- IX

First Summative Evaluation : 40 | Month of evaluation : April

Internal Formative Evaluation : 10

THEME / SUB-THEME

1. Measurement
2. Force and Motion
3. Atomic Structure

Second Summative Evaluation : 40 | Month of evaluation : August

Internal Formative Evaluation : 10

THEME / SUB-THEME

1. Mole Concept
2. Matter : Structure and Properties
3. Solution
4. Acids, Bases and Salts
5. Work, Power and Energy

Third Summative Evaluation : 90 | Month of evaluation : December

Internal Formative Evaluation : 10

THEME / SUB-THEME

1. Sound
2. Heat
3. Separation of Components of Mixtures
4. Water

N.B. : The Themes /Sub-Themes prescribed for the first and second summative evaluation are also to be included in the third summative evaluation.

Physical Science and Environment **(Class IX)**

Blueprint for 1st Summative Evaluation Total Marks 40

THEME/SUB-THEME	MCQ(GR.A)	VSA(GR.B)	SA(GR.C)	LA(GR.D)	TOTAL
1. Measurement	1×3	1×2	2×2	3×1	12
2.Force and Motion	1×2	1×3	2×3	3×1	14
3.Atomic Structure	1×3	1×2	2×3	3×1	14
Total	8	7	16	9	40

Blueprint for 2nd Summative Evaluation Total Marks 40

THEME/SUB-THEME	MCQ(GR.A)	VSA(GR.B)	SA(GR.C)	LA(GR.D)	TOTAL
1. Mole Concept	1×2	1×1	2×1	3×1	8
2. Matter : Structure and Properties	1×2	1×3	2×1	3×1	10
3. Solution	1×1	1×1	2×1	3×1	7
4. Acids, Bases, Salts	1×2	1×1	2×1	3×1	8
5. Work, Force, Energy	1×1	1×1	2×1	3×1	7
Total	8	7	10	15	40

1. **In Group A : All the Multiple Choice Questions (MCQ) are compulsory. There wil be no alternative to any question in this Group.**
2. **In Group B : VSA will contain-(i) answer in single word or single sentence, (ii) column matching, (iii) fill in the blanks, (iv) true/ false type questions. In the first & second summatives there will be alternatives to a total of 3 questions from the same theme/sub-theme.**
3. **In Group C : In the first & second summatives there will be alternative to 3 questions from the same theme/sub-theme.**
4. **In Group D : In the first & second summatives there will be alternative to 3 questions from the same theme/sub-theme. In this Group 3 marks may be broken as (2+1).**
5. **All alternatives should be internal i.e. an alternative to question (2a) should be designed as (2a) [Question] *OR* [Question], (2b), etc.**
6. **Each numerical question will have alternative item from the same theme/sub-theme.**

Physical Science and Environment **(Class IX)**

Blueprint for 3rd Summative Evaluation **Total marks 90**

SECTION	THEME/ SUB-THEME	MCQ(GR. A)	VSA(GR.B)	SA(GR.C)	LA(GR.D)	TOTAL
Physics	1. Matter : Structure and Properties	1×1	1×1	2×2	3×1	9
	2. Measurement	1×1	1×2	2×1	--	5
	3. Force and Motion	1×1	1×2	2×1	3×1	8
	4. Work, Force, Energy	1×1	1×2	2×2	--	7
	5. Sound	1×1	1×2	2×1	3×1	8
	6. Heat	1×1	1×2	2×1	3×1	8
Chemistry	7. Atomic Structure	1×1	1×2	2×1	3×1	8
	8. Mole Concept	1×1	1×2	2×1	3×1	8
	9. Solution	1×1	1×2	2×1	3×1	8
	10. Acids, Bases and Salts	1×2	1×2	2×1	3×1	9
	11. Separation of Components of Mixtures	1×1	1×2	2×1	--	5
	12. Water	1×1	1×2	2×2	--	7
	Total	13	23	30	24	90

1. **In Group A : All the Multiple Choice Questions (MCQ) are compulsory. There wil be no alternative to any question in this Group.**
2. **In Group B : VSA will contain-(i) answer in single word or single sentence, (ii) column matching, (iii) fill in the blanks, (iv) true/ false type questions. In this group there will be alternatives to a total of 8 questions : alternative to 4 questions from Physics and 4 questions from Chemistry will be given. All alternatives will be from the same theme/sub-theme.**
3. **In Group C : (a) Eight (8) questions from Physics will have to be answered. There will be alternative to 3 questions from the same theme. (b) Seven (7) questions from Chemistry will have to be answered. There will be alternative to 3 questions from the same sub-theme.**
4. **In Group D : (a) Four (4) questions from Physics will have to be answered. There will be alternative to 2 questions from the same theme. (b) Four (4) questions from Chemistry will have to be answered. There will be alternative to 2 questions from the same sub-theme. In this Group 3 marks may be broken as (2+1).**
5. **All alternatives should be internal i.e. an alternative to question (2a) should be designed as (2a) [Question] *OR* [Question], (2b), etc.**
6. **Each numerical question will have alternative item from the same theme/sub-theme.**

Physical Science and Environment

Class- X

First Summative Evaluation : 40 Month of evaluation : April

Internal Formative Evaluation : 10

THEME / SUB-THEME

1. Concerns about Our Environment
2. Behaviour of Gases
3. Light
4. Periodic Table and Periodicity of the Properties of Elements
5. Ionic and Covalent Bonding

Second Summative Evaluation : 40 Month of evaluation : August

Internal Formative Evaluation : 10

THEME / SUB-THEME

1. Chemical Calculations
2. Thermal Phenomena
3. Current Electricity
4. Electricity and Chemical Reactions
5. Inorganic Chemistry in the Laboratory and in Industry
6. Metallurgy

Third Summative Evaluation : 90 Month of evaluation : December

Internal Formative Evaluation : 10

THEME / SUB-THEME

1. Atomic Nucleus
2. Organic Chemistry

N.B. : The Themes /Sub-Themes prescribed for the first and second summative evaluation are also to be included in the third summative evaluation.

Physical Science and Environment (Class X)

Blueprint for 1st Summative Evaluation   Total Marks 40

THEME/SUB-THEME	MCQ(GR. A)	VSA(GR.B)	SA(GR.C)	LA(GR.D)	TOTAL
1. Concerns about Our Environment	1×1	1×2	2×1	-	5
2. Behaviour of Gases	1×1	1×2	2×1	3×1	8
3. Light	1×3	1×3	2×1	3×2	14
4. Periodic Table and Periodicity of the Properties of Elements	1×1	1×1	2×1	3×1	7
5. Ionic and Covalent Bonding	1×1	1×1	2×2	-	6
Total	7	9	12	12	40

Blueprint for 2nd Summative Evaluation   Total Marks 40

THEME/SUB-THEME	MCQ(GR. A)	VSA(GR.B)	SA(GR.C)	LA(GR.D)	TOTAL
1. Chemical Calculations	1×1	1×1	-	3×1	5
2. Thermal Phenomena	1×1	1×2	-	3×1	6
3. Current Electricity	1×2	1×2	2×1	3×2	12
4. Electricity and Chemical Reations	1×1	1×2	-	3×1	6
5. Inorganic Chemistry in the Laboratory and in Industry	1×1	1×1	2×1	3×1	7
6. Metallurgy	1×1	1×1	2×1	-	4
Total	7	9	6	18	40

1. **In Group A : All the Multiple Choice Questions (MCQ) are compulsory. There wil be no alternative to any question in this Group.**

2. **In Group B : VSA will contain-(i) answer in single word or single sentence, (ii) column matching, (iii) fill in the blanks, (iv) true/ false type questions. In the first & second summatives there will be alternatives to a total of 3 questions from the same theme/sub-theme.**

3. **In Group C : In the first & second summatives there will be alternative to 3 questions from the same theme/sub-theme.**

4. **In Group D : In the first & second summatives there will be alternative to 3 questions from the same theme/sub-theme. In this Group 3 marks may be broken as (2+1).**

5. **All alternatives should be internal i.e. an alternative to question (2a) should be designed as (2a) [Question] *OR* [Question], (2b), etc.**

6. **Each numerical question will have alternative item from the same theme/sub-theme.**

Physical Science & Environment (Class X)

Blueprint for 3rd Summative Evaluation/Selection Test   Total marks : 90

SECTION	THEME / SUB-THEME	MCQ(GR. A)	VSA(GR.B)	SA(GR.C)	LA(GR.D)	TOTAL
Common Area	1. Concerns about Our Environment	1×1	1×2	2×1	-	5
	2. Behaviour of Gases	1×1	1×2	2×1	3×1	8
	3. Chemical Calculations	1×1	-	-	3×1	4
Physics	4. Thermal Phenomena	1×1	1×1	-	3×1	5
	5. Light	1×2	1×2	2×1	3×2	12
	6. Current Electricity	1×2	1×2	2×1	3×2	12
	7. Atomic Nucleus	1×1	1×1	-	3×1	5
Chemistry	8. Periodic Table and Periodicity of the Properties of Elements.	1×1	1×2	-	3×1	6
	9. Ionic and Covalent Bonding	1×1	1×1	2×2	-	6
	10. Electricity and Chemical Reactions	1×1	1×2	-	3×1	6
	11. Inorganic Chemistry in the Laboratory and in Industry	1×1	1×2	2×1	3×1	8
	12. Metallurgy	1×1	1×2	2×1	--	5
	13. Organic Chemistry	1×1	1×2	2×1	3×1	8
	Total	15	21	18	36	90

1. **In Group A : All the Multiple Choice Questions (MCQ) are compulsory. There wil be no alternative to any question in this Group.**

2. **In Group B : VSA will contain-(i) answer in single word or single sentence, (ii) column matching, (iii) fill in the blanks, (iv) true/ false type questions. In this group there will be alternatives to a total of 6 questions : alternative to 1 question from the Common Area, 2 questions from Physics and 3 questions from Chemistry will be given. All alternatives will be from the same theme/sub-theme.**

3. **In Group C : (a) Two (2) questions from Common Area will have to be answered. There will be alternative to 1 question from the same theme. (b) Two (2) questions from Physics will have to be answered. There will be alternative to 1 question from the same theme. (c) Five (5) questions from Chemistry will have to be answered. There will be alternative to 3 questions from the same sub-theme.**

4. **In Group D : (a) Two (2) questions from Common Area will have to be answered. There will be alternative to 1 question from the same theme. (b) Six (6) questions from Physics will have to be answered. There will be alternative to 3 questions from the same theme. (c) Four (4) questions from Chemistry will have to be answered. There will be alternative to 2 questions from the same sub-theme. In this Group 3 marks may be broken as (2+1)**

5. **All alternatives should be internal i.e. an alternative to question (2a) should be designed as (2a) [Question] *OR* [Question], (2b), etc.**

6. **Each numerical question will have alternative item from the same theme/sub-theme.**

7. **This question pattern is indicative of Madhyamik Examination.**

বিষয় : জীবনবিজ্ঞান ও পরিবেশ

Subject : Life Science and Environment

Life Science and Environment

Class IX

Syllabus –

1. **Life and its Diversity**
2. **Levels of Organization of Life**
3. **Physiological Processes of Life**
4. **Biology and Human Welfare**
5. **Environment and its Resources**

First Summative Evaluation: 40 **Month of evaluation** : **April**

Internal Formative Evaluation : 10

1. **Life and its Diversity**
2. **Levels of Organization of Life**

Second Summative Evaluation : 40 **Month of evaluation** : **August**

Internal Formative Evaluation : 10

3. **Physiological Processes of Life**

Third Summative Evaluation: 90 **Month of evaluation** : **December**

Internal Formative Evaluation : 10

4. **Biology and Human Welfare**
5. **Environment and its Resources**

N.B. : Along with these 2 themes, 3 themes from the first and second summative evaluation are to be included.

Life Science and Environment

Blueprint for Summative Evaluation of Class IX

Question Pattern and Distribution of Marks

1st Summative Evaluation

Total Marks: 40

Sl.No	Theme	Group A	Group B	Group C	Group D	Total Marks per Theme	Total Number of Questions
		MCQ One mark per question	VSA One mark per question	SA Two marks per question	LA Five marks per question		
1.	Life and its Diversity	1×2=2	1×5=5	2×2=4	5×1=5	16	10
2.	Levels of Organization of Life	1×5=5	1×6=6	2×4=8	5×1=5	24	16
	Total	7	11	12	10	40	26

Group A - MCQ : All questions are compulsory. There will be no alternative for MCQ.

Group B - VSA : Out of 13 questions, 11 questions are to be attempted. One (1) extra question is to be set from each theme. VSA questions may be of four types – answer in one word or one sentence, fill in the blanks, true/false and match column A with column B. In column matching two points are to be kept in mind – i) For each correct matching one (1) mark is allotted. ii) There should be at least one (1) extra option in Column B.

Group C - SA : Out of 8 questions, 6 questions are to be attempted. One (1) extra question is to be set from each theme.

Group D - LA : 2 questions are to be attempted. Alternative question from the same theme is to be set for each question. 5 marks can be given as a whole or can be divided in 3+2 or 2+3.

Life Science and Environment

Blueprint for Summative Evaluation of Class IX

Question Pattern and Distribution of Marks

2^{nd} Summative Evaluation

Total Marks: 40

Sl. No	Theme	Group A	Group B	Group C	Group D	Total Marks per Theme	Total Number of Questions
		MCQ One mark per question	VSA One mark per question	SA Two marks per question	LA Five marks per question		
1.	Physiological Processes of Life	1×5=5	1×10=10	2×5=10	5×3=15	40	23
	Total	5	10	10	15	40	23

Group A - MCQ : MCQ : All questions are compulsory. There will be no alternative for MCQ.

Group B - VSA : Out of 13 questions, 10 questions are to be attempted. VSA questions may be of four types – answer in one word or one sentence, fill in the blanks, true/false and match column A with column B. In column matching two points are to be kept in mind – i) For each correct matching one (1) mark is allotted. ii) There should be at least one (1) extra option in Column B.

Group C - SA : Out of 7 questions, 5 questions are to be attempted.

Group D - LA : 3 questions are to be attempted. Alternative question from the same theme is to be set for each question. 5 marks can be given as a whole or can be divided in 3+2 or 2+3.

Life Science and Environment

Blueprint for Summative Evaluation of Class IX

Question Pattern and Distribution of Marks

3rd Summative Evaluation

Total Marks: 90

Sl. No	Theme	Group A	Group B	Group C	Group D	Total Marks per Theme	Total Number of Questions
		MCQ One mark per question	VSA One mark per question	SA Two marks per question	LA Five marks per question		
1.	Life and its Diversity	1×3=3	1×3=3	2×2=4	5×1=5	15	9
2.	Levels of Organization of Life	1×3=3	1×4=4	2×3=6	5×1=5	18	11
3.	Physiological Processes of Life	1×3=3	1×5=5	2×3=6	5×2=10	24	13
4.	Biology and Human Welfare	1×3=3	1×4=4	2×2=4	5×1=5	16	10
5.	Environment and its Resources	1×3=3	1×5=5	2×2=4	5×1=5	17	11
	Total	15	21	24	30	90	54

Group A - MCQ : All questions are compulsory. There will be no alternative for MCQ.
Group B - VSA : Out of 26 questions, 21 questions are to be attempted. One (1) extra question is to be set from each theme. VSA questions may be of four types – answer in one word or one sentence, fill in the blanks, true/false and match column A with column B. In column matching two points are to be kept in mind – i) For each correct matching one (1) mark is allotted. ii) There should be at least one (1) extra option in Column B.
Group C - SA : Out of 17 questions, 12 questions are to be attempted. One (1) extra question is to be set from each theme.
Group D - LA : 6 questions are to be attempted. Alternative question from the same theme is to be set for each question. 5 marks can be given as a whole or can be divided in 3+2 or 2+3.

Life Science and Environment

Class X

Syllabus —

1. **Control and Coordination in living organisms**
2. **Continuity of life**
3. **Heredity and some common genetic diseases**
4. **Evolution and adaptation**
5. **Environment, its resources and their conservation**

First Summative Evaluation: 40	**Month of evaluation** : **April**
Internal Formative Evaluation : 10	

1. **Control and Coordination in living organisms**
2. **Continuity of life – a) Cell division and cell cycle**

Second Summative Evaluation : 40	**Month of evaluation** : **August**
Internal Formative Evaluation : 10	

2. **Continuity of life – b) Reproduction**
   c) Sexual reproduction in flowering plants
   d) Growth and development
3. **Heredity and some common genetic diseases**
4. **Evolution and adaptation**

Third Summative Evaluation: 90	**Month of evaluation** : **December**
Internal Formative Evaluation : 10	

5. **Environment, its resources and their conservation**

N.B.* *Along with this theme, 4 themes from the first and second summative evaluation are to be included.

Life Science and Environment

Blueprint for Summative Evaluation of Class X

Question Pattern and Distribution of Marks

1st Summative Evaluation

Total Marks: 40

Sl. No	Theme	Group A	Group B	Group C	Group D	Total Marks per Theme	Total Number of Questions
		MCQ One mark per question	VSA One mark per question	SA Two marks per question	LA Five marks per question		
1.	Control and Coordination in living organisms	1×5=5	1×5=5	2×3=6	5×2=10	26	15
2.	Continuity of life – a) Cell division and cell cycle	1×3=3	1×4=4	2×1=2	5×1=5	14	9
	Total	8	9	8	15	40	24

Group A - MCQ : All questions are compulsory. There will be no alternative for MCQ.

Group B - VSA : Out of 11 questions, 9 questions are to be attempted. One (1) extra question is to be set from each theme. VSA questions may be of four types – answer in one word or in one sentence, fill in the blanks, true/false and match column A with column B. In column matching two points are to be kept in mind – i) For each correct matching one (1) mark is allotted. ii) There should be at least one (1) extra option in Column B.

Group C - SA : Out of 6 questions, 4 questions are to be attempted. One (1) extra question is to be set from each theme.

Group D - LA : 3 questions are to be attempted. Alternative question from the same theme is to be set for each question. 5 marks can be given as a whole or can be divided in 3+2 or 2+3.

Life Science and Environment

Blueprint for Summative Evaluation of Class X

Question Pattern and Distribution of Marks

2nd Summative Evaluation

Total Marks: 40

Sl. No	Theme	Group A	Group B	Group C	Group D	Total Marks per Theme	Total Number of Questions
		MCQ One mark per question	VSA One mark per question	SA Two marks per question	LA Five marks per question		
1.	Continuity of life— b) Reproduction c) Sexual reproduction in flowering plants d) Growth and development	1×3=3	1×2=2	2×1=2	5×1=5	12	7
2.	Heredity and some common genetic diseases	1×3=3	1×2=2	2×2=4	5×1=5	14	8
3.	Evolution and adaptation	1×3=3	1×2=2	2×2=4	5×1=5	14	8
	Total	9	6	10	15	40	23

Group A - MCQ : All questions are compulsory. There will be no alternative for MCQ.

Group B - VSA : Out of 9 questions, 6 questions are to be attempted. One (1) extra question is to be set from each theme. VSA questions may be of four types – answer in one word or in one sentence, fill in the blanks, true/false and match column A with column B. In column matching two points are to be kept in mind – i) For each correct matching one (1) mark is allotted. ii) There should be at least one (1) extra option in Column B.

Group C - SA : Out of 8 questions, 5 questions are to be attempted. One (1) extra question is to be set from each theme.

Group D - LA : 3 questions are to be attempted. Alternative question from the same theme is to be set for each question. 5 marks can be given as a whole or can be divided in 3+2 or 2+3.

Life Science and Environment

Blueprint for Summative Evaluation of Class X

Question Pattern and Distribution of Marks

3rd Summative Evaluation/Selection Test

Total Marks: 90

Sl. No	Theme	Group A	Group B	Group C	Group D	Total Marks per Theme	Total Number of Questions
		MCQ One mark per question	VSA One mark per question	SA Two marks per question	LA Five marks per question		
1.	Control and Coordination in living organisms	1×3=3	1×5=5	2×3=6	5×1=5	19	12
2.	Continuity of life	1×3=3	1×5=5	2×2=4	5×1=5	17	11
3.	Heredity and some common genetic diseases	1×3=3	1×3=3	2×2=4	5×1=5	15	9
4.	Evolution and adaptation	1×3=3	1×3=3	2×2=4	5×1=5	15	9
5.	Environment, its resources and their conservation	1×3=3	1×5=5	2×3=6	5×2=10	24	13
	Total	15	21	24	30	90	54

Group A - MCQ : All questions are compulsory. There will be no alternative for MCQ.

Group B - VSA : Out of 26 questions, 21 questions are to be attempted. One (1) extra question is to be set from each theme. VSA questions may be of four types – answer in one word or one sentence, fill in the blanks, true/false and match column A with column B. In column matching two points are to be kept in mind – i) For each correct matching one (1) mark is allotted. ii) There should be at least one (1) extra option in Column B.

Group C - SA : Out of 17 questions, 12 questions are to be attempted. One (1) extra question is to be set from each theme.

Group D - LA : 6 questions are to be attempted. Alternative question from the same theme is to be set for each question. 5 marks can be given as a whole or can be divided in 3+2 or 2+3.

**** This question pattern is indicative of Madhyamik Examination.**

বিষয় : ইতিহাস ও পরিবেশ

Subject : History and Environment

History and Environment
Class IX

Syllabus :

Preface
Chapter – 1 : Some Aspects of the French Revolution
Chapter – 2 : Revolutionary Ideals, Napoleonic Empire and the Idea of Nationalism
Chapter – 3 : Europe in the 19th century : Conflict of Monarchical and Nationalist ideas
Chapter – 4 : Industrial Revolution, Colonialism and Imperialism
Chapter – 5 : Europe in the Twentieth Century
Chapter – 6 : The Second World War and its aftermath
Chapter – 7 : The League of Nations and the United Nations Organisations

- **1st Summative Evaluation** **Total Marks - 40** **Month of evaluation : April**
  Internal Formative Evaluation **Total Marks - 10**
  Chapter – 1 :Some Aspects of the French Revolution
  Chapter – 2 : Revolutionary Ideals, Napoleonic Empire and the Idea of Nationalism

- **2nd Summative Evaluation** **Total Marks - 40** **Month of evaluation : August**
  Internal Formative Evaluation **Total Marks - 10**
  Chapter – 3 : Europe in the 19th century : Conflict of Monarchical and Nationalist ideas
  Chapter – 4 : Industrial Revolution, Colonialism and Imperialism
  Chapter – 5 : Europe in the Twentieth Century

- **3rd Summative Evaluation** **Total Marks - 90** **Month of evaluation : December**
  Internal Formative Evaluation **Total Marks - 10**
  Chapter – 6 : The Second World War and its aftermath
  Chapter – 7 : The League of Nations and the United Nations Organisations

Note :

Chapters prescribed for the First and Second summative Evaluations are also to be included in the 3rd Summative Evaluation

Question pattern and allotment of marks for Summative Evaluation – Class IX

1st Summative Evaluation **Total Marks - 40**

No.	CHAPTER	GROUP-A M.C.Q each question– 1 mark	GROUP-B Very short answer type (V.S.A) each question – 1 mark	GROUP-C Short answer type each question – 2 marks	GROUP-D Analytical answer type each question – 4 marks	GROUP-E Explanatory answer type each question – 8 marks	
1.	Some Aspects of the French Revolution	1× 5	1× 3	2×2	Total 3 questions from two chapters. Answer any 2 questions	1 question from each chapter. Answer any 1 question	
2.	Revolutionary Ideals, Napoleonic Empire and the Idea of Nationalism	1× 5	1× 3	2×3			
Questions to be given		10	6	5	3	2	26
Questions to be answered		10	6	4	2	1	23
Total Marks		1 × 10 = 10	1 × 6 = 6	2 × 4 = 8	4 × 2 = 8	8× 1 = 8	40

Note :

Group A : Consists of MCQ. Every question of this group should have four options of answer.

Group B : Should consists of only two items : Match the Coloumn & Map pointing**, 3 questions from each item (2×3=6)

Group C : Consists of short answer type conceptual questions. Answer should be in two or three sentences.

Group D : Consists of analytical answer type conceptual questions. Answer should be in seven or eight sentences.

Group E : Consists of explanatory answer type conceptual questions. Answer should be in fifteen to sixteen sentences.In this group marks division will be 3+5/5+3/8.

**For the visually challenged students Fill in the blanks will be given as an alternative.

Question pattern and allotment of marks for Summative Evaluation – Class IX

2nd Summative Evaluation **Total Marks - 40**

No.	CHAPTER	GROUP-A	GROUP-B	GROUP-C	GROUP-D	GROUP-E	
		M.C.Q each question– 1 mark	Very short answer type (V.S.A) each question – 1 mark	Short answer type each question– 2 marks	Analytical answer type each question – 4 marks	Explanatory answer type each question- 8 marks	
3.	Europe in the 19th century	1 × 3	1 × 2	2 × 2	Total 3 questions from two chapters. Answer any 2 questions	1 question from each chapter. Answer any 1 question	
4.	Industrial Revolution, Colonialism and Imperialism	1 × 3	1 × 4	2 × 2			
5.	Europe in the Twentieth Century	1 × 2	1 × 2	2 × 2			
Questions to be given		8	8	6	3	3	28
Questions to be answered		8	8	4	2	1	23
Total Marks		1 × 8 = 8	1 × 8 = 8	2 × 4 = 8	4 × 2 = 8	8× 1 = 8	40

Note :

Group A : Consists of MCQ. Every question of this group should have four options of answer.

Group B : Should consists of very short answer type questions (answer should be in a single sentence), True-False, Statement-Assertion. At least 2 questions from each item will be given.

Group C : Consists of short answer type conceptual questions. Answer should be in two or three sentences.

Group D : Consists of analytical answer type conceptual questions. Answer should be in seven or eight sentences.

Group E : Consists of explanatory answer type conceptual questions. Answer should be in fifteen to sixteen sentences. In this group marks division will be 3+5, 5+3, 8.

Question pattern and allotment of marks for Summative Evaluation – Class IX

3rd Summative Evaluation **Total Marks - 90**

CHAPTER	GROUP-A M.C.Q each question– 1 mark	GROUP-B Very short answer type (V.S.A) each question – 1 mark	GROUP-C Short answer type each question – 2 marks	GROUP-D Analytical answer type each question – 4 marks	GROUP-E Explanatory answer type each question – 8 marks	
1	1 × 3	1 × 3	2 × 2	4 × 2	One question from chapter 1 or 2	
2	1 × 3	1 × 3	2 × 2	4 × 2		
3	1 × 3	1 × 3	2 × 2	4 × 2	One question from chapter 3 or 4	
4	1 × 3	1 × 3	2 × 2	4 × 2		
5	1 × 3	1 × 3	2 × 2	4 × 2	One question from chapter 5 or 6	
6	1 × 3	1 × 3	2 × 2	4 × 2		
7	1 × 2	1 × 2	2 × 2	–	–	
Questions to be given	20	20	14	12	3	69
Questions to be answered	20	16	11	6	1	54
Total Marks	1 × 20 = 20	1 × 16 = 16 Answer any 16 questions from 20. Have to answer from each item.	2 × 11 = 22 Answer any 11 questions from 14.	4 × 6 = 24 Answer total 6 questions. At least 1 question from each chapter.	8 × 1 = 8 Answer any 1 question from 3 segments.	90

Note :

Group A : Consists of MCQ. Every question of this group should have four options of answer.

Group B : Should consist of True-False, Match the Coloumn, VSA (in one sentence), Map pointing** & Statement-Assertion. 4 questions from each item will be given.

Group C : Consists of short answer type conceptual questions. Answer should be in two or three sentences.

Group D : Consists of analytical answer type conceptual questions. Answer should be in seven or eight sentences.

Group E : Consists of explanatory answer type conceptual questions. Answer should be in fifteen to sixteen sentences. In this group marks division will be 3+5, 5+3, 8.

**For the visually challenged students Fill in the Blanks will be given as an alternative.

History and Environment
Class X

Syllabus :

Chapter 1 : Ideas of History

Chapter 2 : Reform: Characteristics and Observations

Chapter 3 : Resistance and Rebellion: Characteristics and Analyses

Chapter 4 : Early stages of Collective Action: Characteristics and Analyses

Chapter 5 : Alternative Ideas and Initiatives (From mid-19th Century to the Early 20th Century) : Characteristics and Observations

Chapter 6 : Peasant, Working Class and Left Movements in 20th Century India: Characteristics and Observations

Chapter 7 : Movements organized by Women, Students and Marginal People in 20th Century India: Characteristics and Analyses

Chapter 8 : Post-Colonial India: Second half of the 20th Century (1947-1964)

- **1st Summative Evaluation — Total Marks - 40 — Month of evaluation : April**

  Internal Formative Evaluation — Total Marks - 10

  Chapter 1 : Ideas of History

  Chapter 2 : Reform: Characteristics and Observations

  Chapter 3 : Resistance and Rebellion: Characteristics and Analyses

- **2nd Summative Evaluation — Total Marks - 40 — Month of evaluation : August**

  Internal Formative Evaluation — Total Marks - 10

  Chapter 4 : Early stages of Collective Action: Characteristics and Analyses

  Chapter 5 : Alternative Ideas and Initiatives (From mid-19th Century to the Early 20th Century) : Characteristics and Observations

  Chapter 6 : Peasant, Working Class and Left Movements in 20th Century India: Characteristics and Observations

- **3rd Summative Evaluation — Total Marks - 90 — Month of evaluation : December**

  Internal Formative Evaluation — Total Marks - 10

  Chapter 7 : Movements organized by Women, Students and Marginal People in 20th Century India: Characteristics and Analyses

  Chapter 8 : Post-Colonial India: Second half of the 20th Century (1947-1964)

Note : Chapters prescribed for the First and Second summative Evaluations are also to be included in the 3rd Summative Evaluation

Question pattern and allotment of marks for Summative Evaluation – Class X

1st Summative Evaluation **Total Marks - 40**

No.	CHAPTER	GROUP-A	GROUP - B	GROUP - C	GROUP - D	GROUP - E	
		M.C.Q each question– 1 mark	Very short answer type (V.S.A) each question – 1 mark	Short answer type each question– 2 marks	Analytical answer type each question – 4 marks	Explanatory answer type each question- 8 marks	
1.	Ideas of History	1 × 2	1 × 2	2 × 1	1 question from each chapter. Answer any 2 questions	1 question from each chapter. Answer any 1 question.	
2.	Reform: Characteristics and Observations	1 × 4	1 × 2	2 × 2			
3.	Resistance and Rebellion	1 × 4	1 × 2	2 × 2			
Questions to be given		10	6	5	3	3	27
Questions to be answered		10	6	4	2	1	23
Total Marks		1 × 10 = 10	1 × 6 = 6	2 × 4 = 8	4 × 2 = 8	8× 1 = 8	40

Note :

Group A : Consists of MCQ. Every question of this group should have four options of answer.

Group B : Should consists of very short answer type questions (answer should be in a single sentence), True-False, Statement-Assertion. 2 questions from each item will be given (3×2=6)

Group C : Consists of short answer type conceptual questions. Answer should be in two or three sentences.

Group D : Consists of analytical answer type conceptual questions. Answer should be in seven or eight sentences.

Group E : Consists of explanatory answer type conceptual questions. Answer should be in fifteen to sixteen sentences. In this group marks division will be 3+5, 5+3, 8.

Question pattern and allotment of marks for Summative Evaluation – Class X

2nd Summative Evaluation **Total Marks - 40**

No.	CHAPTER	GROUP-A	GROUP-B	GROUP-C	GROUP-D	GROUP-E	
		M.C.Q each question– 1 mark	Very short answer type (V.S.A) each question – 1 mark	Short answer type each question– 2 marks	Analytical answer type each question – 4 marks	Explanatory answer type each question- 8 marks	
4.	Early stages of Collective Action	1× 3	1× 2	2× 1	1 question from each chapter. Answer any 2 questions	1 question from each chapter. Answer any 1 question.	
5.	Alternative Ideas and Initiatives	1× 4	1× 2	2× 2			
6.	Peasant, Working Class and Left Movements in 20th Century India	1× 3	1× 2	2× 2			
Questions to be given		10	6	5	3	3	27
Questions to be answered		10	6	4	2	1	23
Total Marks		1 × 10 = 10	1 × 6 = 6	2 × 4 = 8	4 × 2 = 8	8× 1 = 8	40

Note :

Group A : Consists of MCQ. Every question of this group should have four options of answer.

Group B : Should consists of only two items : Match the Coloumn & Map pointing**, 3 questions from each item will be given (2×3=6)

Group C : Consists of short answer type conceptual questions. Answer should be in two or three sentences.

Group D : Consists of analytical answer type conceptual questions. Answer should be in seven or eight sentences.

Group E : Consists of explanatory answer type conceptual questions. Answer should be in fifteen to sixteen sentences. In this group marks division will be 3+5, 5+3, 8.

**For the visually challenged students Fill in the blanks will be given as alternative.

Question pattern and allotment of marks for Summative Evaluation – Class X

3rd Summative Evaluation / Selection Test **Total Marks - 90**

CHAPTER	GROUP-A M.C.Q each question– 1 mark	GROUP-B Very short answer type (V.S.A) each question – 1 mark	GROUP-C Short answer type each question– 2 marks	GROUP-D Analytical answer type each question – 4 marks	GROUP-E Explanatory answer type each question- 8 marks	
1	1 × 2	1 × 2	2 × 2	2 questions from chapter 1 or 2	—	
2	1 × 3	1 × 3	2 × 2		1 question from chpter 2 or 3	
3	1 × 2	1 × 3	2 × 2	2 questions from chapter 3 or 4		
4	1 × 3	1 × 3	2 × 2		1 question from chpter 4 or 5	
5	1 × 2	1 × 2	2 × 2	2 questions from chapter 5 or 6		
6	1 × 3	1 × 3	2 × 2		1 question from chpter 6 or 7	
7	1 × 3	1 × 3	2 × 2	2 questions from chapter 7 or 8		
8	1 × 2	1 × 1	2 × 2		—	
Questions to be given	20	20	16	8	3	67
Questions to be answered	20	16	11	6	1	54
Total Marks	1 × 20 = 20	1 × 16 = 16 Answer any 16 questions from 20. Have to answer from each item.	2 × 11 = 22 Answer any 11 questions from 16.	4 × 6 = 24 Answer total 6 questions from four segments. At least 1 question from each segment and other 2 from any segment.	8× 1 = 8 Answer any 1 question from 3.	90

Note :

Group A : Consists of MCQ. Every question of this group should have four options of answer.

Group B : Should consist of True-False, Match the Coloumn, VSA (in one sentence), Map pointing** & Statement-Assertion. 4 questions from each item will be given.

Group C : Consists of short answer type conceptual questions. Answer should be in two or three sentences.

Group D : Consists of analytical answer type conceptual questions. Answer should be in seven or eight sentences.

Group E : Consists of explanatory answer type conceptual questions. Answer should be in fifteen to sixteen sentences. In this group marks division of the three questions will be 3+5, 5+3 and 8.

* This question pattern is indicative of Madhyamik Examination.

** For the visually challenged students Fill in the Blanks will be given as alternative.

বিষয় : ভূগোল ও পরিবেশ

Subject : Geography and Environment

Geography and Environment
Class - IX

Syllabus

Theme : 1. Earth as a planet
2. Movements of the Earth
3. Determination of location of a place on the Earth's surface
4. Geomorphic Processes and Landforms of the Earth
5. Weathering
6. Hazards and Disasters
7. Resources of India
8. West Bengal
9. Maps and Scale
• Map (Resources of India and West Bengal)

First Summative Evaluation : 40 marks
Internal Formative Evaluation : 10 marks
Month of evaluation : April

Theme : 1. Earth as a planet
2. Movements of the Earth
7. Resources of India
• Map (Resources of India)

Second Summative Evaluation : 40 marks
Internal Formative Evaluation : 10 marks
Month of evaluation : August

Theme : 3. Determination of location of a place on the Earth's surface
4. Geomorphic Processes and Landforms of the Earth
5. Weathering
8. West Bengal (Location, Administrative Divisions, Physical Environment)

Third Summative Evaluation : 90 marks
Internal Formative Evaluation : 10 marks
Month of evaluation : December

Theme : 6. Hazards and Disasters
8. West Bengal (Major Economic Activities)
9. Maps and Scale
• Map (West Bengal)

N.B. : Themes chosen for the first and second summative evaluations are also to be included in the third summative evaluation (except map work of first summative evaluation).

Geography and Environment

Question pattern and distribution of marks for Summative Evaluation – Class IX

First Summative Evaluation

Full marks-40

Theme	Group - A	Group - B	Group - C	Group - D	Group - E	Group - F	Total
	MCQ type 1 mark	Very short answer type question 1 mark	Short answer type question 2 marks	Short explanatory answer type question 3 marks	Long answer type question 5 marks	Map 1 mark	
Physical Geography 1. Earth as a Planet	1 × 2 = 2	1 × 2 = 2	2 × 1 = 2	3 × 1 = 3	5 × 1 = 5*		09 + 5
2. Movements of the Earth	1 × 2 = 2	1 × 3 = 3	2 × 1 = 2	3 × 1 = 3			10
Regional Geography 7. Resources of India	1 × 3 = 3	1 × 3 = 3	2 × 1 = 2	3 × 1 = 3			11
● Map (Resources of India)	—	—	—	—	—	1 × 5 = 5	05
	07	08	06	09	05	05	40

N. B. :

Group-A : MCQ type – Information based and concept oriented questions to be set (four options to be provided).

Group-B : Very short answer type question – should consist of • fill in the blanks • true/ false • column matching • one or two word answer.

Group-C : Short answer type question – Consists of 'what'/ 'where' type questions.

Group-D : Short explanatory answer type question – Compare/contrast/reasoning type of questions to be set (three points to be asked).

Group-E : Long answer type question – Preferably diagram-based questions from physical geography, 'how'/ 'why' questions from Regional Geography.

Group-F : Outline map of India to be provided and questions to be set to locate and label geographical features. Five alternative questions should be provided for sightless candidates in lieu of map work. Each question carries 1 mark.

* Total 2 questions to be given, 1 each from Physical and Regional Geography. Any 1 to be answered.

Geography and Environment

Question pattern and distribution of marks for Summative Evaluation – Class IX

Second Summative Evaluation

Full marks-40

Theme	Group - A	Group - B	Group - C	Group - D	Group - E	Total
	MCQ type 1 mark	Very short answer type question 1 mark	Short answer type question 2 marks	Short explanatory answer type question 3 marks	Long answer type question 5 marks	
Physical Geography 3. Determination of location of a place on the Earth's surface	$1 \times 2 = 2$	$1 \times 2 = 2$	$2 \times 1 = 2$	$3 \times 1 = 3$	$5 \times 1 = 5$*	09
4. Geomorphic Processes and Landforms of the Earth	$1 \times 2 = 2$	$1 \times 2 = 2$	$2 \times 1 = 2$	$3 \times 1 = 3$		09
5. Weathering	$1 \times 1 = 1$	$1 \times 2 = 2$	$2 \times 1 = 2$	$3 \times 1 = 3$		08 + 5
Regional Geography 8. West Bengal (Location, Administrative Divisions, Physical Environment)	$1 \times 2 = 2$	$1 \times 2 = 2$	$2 \times 1 = 2$	$3 \times 1 = 3$		09
	07	08	08	12	05	40

N. B. :

Group-A : MCQ type – Information based and concept oriented questions to be set (four options to be provided).

Group-B : Very short answer type question – should consist of • fill in the blanks • true/ false • column matching • one or two word answer.

Group-C : Short answer type question – Consists of 'what'/ 'where' type questions.

Group-D : Short explanatory answer type question – Compare/contrast/reasoning type of questions to be set (three points to be asked).

Group-E : Long answer type question – Preferably diagram-based questions from Physical Geography, 'how'/ 'why' questions from Regional Geography.

* Total 3 questions to be given, at least 1 each from Physical and Regional Geography. Any 1 to be answered.

Geography and Environment
Question pattern and distribution of marks for Summative Evaluation – Class IX
Third Summative Evaluation

Full marks-90

Theme	Group - A	Group - B	Group - C	Group - D	Group - E	Group - F	Total
	MCQ type 1 mark	Very short answer type question 1 mark	Short answer type question 2 marks	Short explanatory answer type question 3 marks	Long answer type question 5 marks	Map 1 mark	
Physical Geography 1. Earth as a Planet 2. Movements of the Earth 3. Determination of location of a place on the Earth's surface 4. Geomorphic Processes and Landforms of the Earth 5. Weathering	1×8 = 8	1 ×11 = 11	2×3 = 6	3 ×2 = 6	5×2 = 10	—	41
Man and Environment 6. Hazards and Disasters	1×1 = 1	1×1 = 1	2×1 = 2	3 ×1 = 3	—	—	07
Regional Geography (Including Maps and Scale) 7. Resources of India 8. West Bengal 9. Maps and Scale	1 ×5 = 5	1×10 = 10	2×2 = 4	3 ×1 = 3	5×2 = 10	—	32
● Map (West Bengal)	—	—	—	—	—	1×10 = 10	10
	14	22	12	12	20	10	90

N. B. : Group - A : Total 14 questions to be given. [Total 8 questions to be given including at least 1 from each theme of Physical Geography. Total 5 questions to be given including at least 1 from each theme of Regional Geography.] There will be no alternative in this group.
Group - B : Total 25 questions to be set, out of which 22 to be answered. [At least 2 questions and 3 questions from each theme of Physical Geography and Regional Geography respectively to be given.]
Group - C : Total 6 questions to be given including at least 1 each from 5 themes of Physical Geography. Any 3 to be answered. 1 out of 2 alternatives from Hazards and Disasters to be answered. Total 4 questions to be given including at least 1 from each theme of Regional Geography. Any 2 to be answered.
Group - D : Total 4 questions to be given including 1 each from any 4 selected themes of Physical Geography. Any 2 to be answered. 1 out of 2 alternatives from Hazards and Disasters to be answered. Total 3 questions to be given including 1 from each theme of Regional Geography. Any 1 to be answered.
Group - E : Total 4 questions to be given including 1 each from any 4 selected themes of Physical Geography. Any 2 to be answered. Total 4 questions to be given including at least 1 from each theme of Regional Geography. Any 2 to be answered.

Distribution of marks and question pattern for Third Summative Evaluation

Group	Type of question	Marks for each question	Number of questions to be attempted	Total marks	No. of questions to be set	Nature of question
A	MCQ type	01	14	$1 \times 14 = 14$	14	Information based and concept oriented questions to be set (four options to be provided)
B	Very short answer type question	01	22	$1 \times 22 = 22$	25	• Fill in the blanks • True/ false • Column matching • One or two word answer
C	Short answer type question	02	06	$2 \times 6 = 12$	12	'What'/ 'where' type questions
D	Short explanatory answer type question	03	04	$3 \times 4 = 12$	09	Compare / contrast / reasoning type of questions to be set (three points to be asked)
E	Long answer type question	05	04	$5 \times 4 = 20$	08	• Preferably diagram-based questions from Physical Geography, 'how'/ 'why' questions from Regional Geography
F	Map work*	01	10	$1 \times 10 = 10$	10	Outline map of West Bengal to be provided and questions to be set to locate and label geographical features
			Total = 60	**Total = 90**	**Total = 78**	

* 10 questions to be provided for sightless candidates in lieu of map work. Each question carries 1 mark.

Geography and Environment
Class - X

Syllabus

Topic : 1. Exogenetic processes and resultant landforms
2. Atmosphere
3. Hydrosphere
4. Waste management
5. India
6. Satellite imagery and Topographical map
- Map (India)

First Summative Evaluation : 40 marks — Month of Evaluation : April
Internal Formative Evaluation : 10 marks

Topic : 1. Exogenetic processes and resultant landforms
5. India – Introduction, Physical environment

Second Summative Evaluation : 40 marks
Internal Formative Evaluation : 10 marks — Month of Evaluation: August

Topic : 2. Atmosphere
3. Hydrosphere
5. India – Economic environment

Third Summative Evaluation : 90 marks
Internal Formative Evaluation : 10 marks — Month of Evaluation : December

Topic : 4. Waste management
6. Satellite imagery and Topographical map
- Map (India)

N.B. : Topics chosen for the first and second summative evaluations are also to be included in the third summative evaluation.

Geography and Environment

Question pattern and distribution of marks for Summative Evaluation — class x

First Summative Evaluation

Full marks-40

Topic	Group - A	Group - B	Group - C	Group - D	Group - E	Total
	MCQ type 1 mark	Very short answer type question 1 mark	Short answer type question 2 marks	Short explanatory answer type question 3 marks	Long answer type question 5 marks	
Physical Geography 1. Exogenetic processes and resultant landforms	1×4 = 4	1×4 = 4	2×2 = 4	3×1 = 3	5×1 = 5	20
Regional Geography 5. India – Introduction, Physical Environment	1×4 = 4	1×4 = 4	2×2 = 4	3×1 = 3	5×1 = 5	20
	08	08	08	06	10	40

N. B. :

Group-A : MCQ type – Information based and concept oriented questions to be set (four options to be provided).

Group-B : Very short answer type – should consist of • fill in the blanks • true/ false • column matching • one or two word answer.

Group-C : Short answer type question – Consists of what'/ 'where' type questions.

Group-D : Short explanatory answer type question – Compare/contrast/reasoning type of questions to be set (three points to be asked).

Group-E : Long answer type question – Preferably diagram-based questions from Physical Geography, 'how'/ 'why' questions from Regional Geography.

Geography and Environment

Question pattern and distribution of marks for Summative Evaluation — class x

Second Summative Evaluation

Full marks-40

Topic	Group - A **MCQ type** **1 mark**	Group - B **Very short answer type question** **1 mark**	Group - C **Short answer type question** **2 marks**	Group - D **Short explanatory answer type question** **3 marks**	Group - E **Long answer type question** **5 marks**	Total
Physical Geography						
2. Atmosphere	1×3=3	1×3=3	2×1=2	3×1=3	5×1=5	16
3. Hydrosphere	1×2=2	1×2=2	2×1=2	3×1=3	–	09
Regional Geography						
5. India – Economic Environment	1×3=3	1×3=3	2×2=4	–	5×1=5	15
	08	08	08	06	10	40

N. B. :

Group-A : MCQ type – Information based and concept oriented questions to be set (four options to be provided).

Group-B : Very short answer type – should consist of • fill in the blanks • true/ false • column matching • one or two word answer.

Group-C : Short answer type question – Consists of 'what'/ 'where' type questions.

Group-D : Short explanatory answer type question – Compare/contrast/reasoning type of questions to be set (three points to be asked).

Group-E : Long answer type question – Preferably diagram-based questions from Physical Geography, 'how'/ 'why' questions from Regional Geography.

Geography and Environment

Question pattern and distribution of marks for Summative Evaluation — class x

Third Summative Evaluation / Selection Test

Full marks-90

Topic	Group - A	Group - B	Group - C	Group - D	Group - E	Group - F	Total
	MCQ type 1 mark	Very short answer type question 1 mark	Short answer type question 2 marks	Short explanatory answer type question 3 marks	Long answer type question 5 marks	Map 1 mark	
Physical Geography 1. Exogenetic processes and resultant landforms 2. Atmosphere 3. Hydrosphere	1×6 = 6	1×9 = 9	2×2 = 4	3×1 = 3	5×2 = 10	—	32
Environmental Geography 4. Waste management	1×1 = 1	1×2 = 2	2×1 = 2	3×1 = 3	—	—	08
Regional Geography 5. India–Introduction, Physical environment, Economic environment	1×6 = 6	1×9 = 9	2×2 = 4	3×1 = 3	5×2 = 10	—	32
Satellite imagery and Topographical map 6. Satellite imagery and Topographical map	1×1 = 1	1×2 = 2	2×1 = 2	3×1 = 3	—	—	08
● Map (India)	—	—	—	—	—	1×10 = 10	10
	14	22	12	12	20	10	90

N. B. : Group-A : Total 14 questions to be given. [Total 6 questions to be given including 2 questions from each topic of Physical Geography.] There will be no alternative in this group.

Group-B : Total 26 questions to be set, out of which 22 to be answered. [At least 3 questions from each topic of Physical Geography to be given.]

Group-C : Total 12 questions to be given in this group, out of which 6 to be answered. [Total 4 questions at least 1 from each topic of Physical Geography and 4 questions from Regional Geography to be given. 2 questions each from Physical Geography and Regional Geography to be answered. 4 questions, 2 each from Environmental Geography and Satellite imagery and Topographical map to be given. 1 question each from Environmental Geography and Satellite imagery and Topographical map to be answered.]

Group-D : Total 8 questions to be given in this group. [1 out of 2 alternatives from each of Physical Geography, Environmental Geograpghy, Regional Geography, Satellite imagery and Topographical map to be answered.]

Group-E : Total 8 questions to be given in this group. [4 questions to be given at least 1 from each topic of Physical Geography and 4 questions to be given from Regional Geography. Total 4 questions including 2 questions each from Physical Geography and Regional Geography to be answered.]

Distribution of marks and question pattern for Third Summative Evaluation/Selection Test

Group	Type of question	Marks for each question	Number of questions to be attempted	Total marks	No. of questions to be set	Nature of question
A	MCQ type	01	14	1 × 14 = 14	14	Information based and concept oriented questions to be set (four options to be provided)
B	Very short answer type question	01	22	1 × 22 = 22	26	• Fill in the blanks • True/ false • Column matching • One or two word answer
C	Short answer type question	02	06	2 × 6 = 12	12	'What'/ 'where' type questions
D	Short explanatory answer type question	03	04	3 × 4 = 12	08	Compare / contrast / reasoning type of questions to be set (three points to be asked)
E	Long answer type question	05	04	5 × 4 = 20	08	• Preferably diagram-based questions from Physical Geography, 'how'/ 'why' questions from Regional Geography
F	*Map work	01	10	1 × 10 = 10	10	Outline map of India to be provided and questions to be set to locate and label geographical features
			Total = 60	**Total = 90**	**Total = 78**	

* 10 questions to be provided for sightless candidates in lieu of map work. Each question carries 1 mark.

N. B.- This question pattern is indicative of Madhyamik Examination.

SUBJECT

Computer Application.

Syllabus and Curriculum of the additional subject 'Computer Applications'

CLASS-IX

1. History of Computers—2 periods (Theoretical)

Origins of Calculation, Abacus, Napier's bone, Babbage's Analytical Engine.
Computer Generations : The First Generation, the Second Generation, the Third Generation, the Fourth Generation, Microcomputer, Minicomputer, Main-Frame Computer.

2. Binary System—6 periods (Theoretical)

The Binary concept, the Binary System, the Binary Arithmetics :

(i) Conversion from Decimal to Binary System and vice versa with respect to Integers only.
(ii) Negative integer Representation.
(iii) Binary Addition, Subtraction with complement, the Octal System, the Hexadecimal System, Bit, Byte & Words.
(iv) ASCII code and its representation.

3. Elementary Boolean Algebra—3 periods (Theoretical)

A' or A = not A or A complement
A + A' = 1. A- A' - 0. A + A = A. A + B = B + A
A + BC = (A + B) (A + C),
where + means OR (v) and means AND (^).

4. Structure of Computers—3 periods (Theoretical)

(i) Input Devices	Console, Keyboards, Bar Codes Magnetic Ink, Character Reader, Touch Screen, Light pen, Mouse, Speech input, Graphic Tablet
(ii) General Processing unit	Control Unit, Arithmetic Logic Unit, Memory.
(iii) Output Devices	Visual Display Unit, Line Printer, Dot Matrix Printers, Laser Printer
(iv) Mass Storage Unit	Magnetic Tape, Magnetic Disk, Winchester Disk, Floppy Disk, Tape Cartridge

5. Representation of Data Information Concepts of Data Processing—3 periods (Theoretical)

1. Definition of Information and data
2. Basic data types
3. Storage of data
4. Concepts of records, files and directories

6. Introduction to Windows—3 periods (Theoretical) + 3 periods (Practical)

(i) What is an operating system and basics of Windows
(ii) The User-interface :
a) Using Mouse and Moving Icons on the screen
b) The My Computer Icon
c) The Recycle Bin
d) Status Bar, Start and Menu & Menu-selection
e) Running and Application
h) Windows Explorer, Viewing of Files, Folders and Directories
g) Creating and Renaming of files and folders.
h) Opening and closing of different Windows.

Basic DOS commands—3 periods (Theoretical) 4- 2 periods (Practical)

i) Comparison of DOS and Windows.
ii) Switching between DOS and Windows
iii) Basic DOS Commands :
   a) files/Directory Manipulations
   b) Copying of files on Disks
   c) Delete/Undelete of Files
   d) Formatting a floppy

Elements of Words Processing—5 periods (Theoretical) + 5 periods (Practical)

i) Word Processing Basic :
- a) An Introduction to Word Processing
- b) Opening Word Processing Package
- c) The Menu Bar
- d) Using the Help
- e) Using the Icons below menu bar

ii) Opening documents and closing documents :
- a) Opening documents
- b) Save and Save As
- c) Page Set up
- d) Printing of documents
- e) Display/Hiding of Paragraph Marks and Inter Word Space

iii) Moving Around in a Document :
- a) Scrolling the Document
- b) Scrolling by line/paragraph
- c) First Scrolling and moving pages

iv) Using a document Help Wizard

v) Text creation and Manipulation :
- a) Paragraph and Tab Setting
- b) Text Selection
- c) Cut, Copy and Paste
- d) Font and Size Selection
- e) Bold, Italic and Underline
- f) Alignment of Text, Centre, Left, right and justify.

vi) Formatting the Text :
- a) Changing fort, size and colour
- b) Bullets and Numbering
- c) Changing case

vii) Handling Multiple documents :
- a) opening and closing of Multiple Documents
- b) Cut, copy and paste across the documents
- c) Saving of Clip Boards

viii) Printing :
- a) Printing
- b) Print preview
- c) Print a selected page

9. Software and languages—4 periods (Theoretical)

i) Hardware and software

ii) Operating System

iii) Utility Program

iv) Application packages and programmes.

v) Computer languages

Generation of languages and uses and application of languages like BASIC, FORTRAN, COBOL, PASCAL and C.

10. Flow Charts—3 periods (Theoretical)

Flow Charts - symbols, their meanings and uses, Writing some elementary flow chars.

11. Programme in BASIC (Preliminary topics)—5 periods (Theoretical) + 10 periods (Practical)

i) Constants and Variables :
- a) The Character Set
- b) Constants
- c) Variables
- d) Naming the Variable

e) Using LET, PRINT, INPUT, DATA, GOTO, READ, INPUT, LPRINT, IF-THEN, IF-THEN-GOTO and related How charts.

ii) Expression in BASIC :

a) Arithmetic Expressions

b) Hierarchy of operations

c) Rules of Arithmetic operators

d) Evaluation of expressions

iii) Print Controls :

a) The Comma control

b) The Semicolon control

c) The TAB function

CLASS-X

1. Programming in BASIC Advanced topic—16 periods (Theoretical) + 9 periods (Practical)

i) Revision of Work done in class IX.

ii) System command in BASIC

a) Refinements in Programming

b) Logical Expressions

c) Library Functions

d) User-defined Functions

c) IF-THEN-ELSE. ON-GOTO

iii) a) Looping-The For-Next statement

b) A subroutine Limited to use of GOSUB-RETURN

c) Arrays (one and two dimentional) (Single and double-subscripted Variables)

iv) Graphic Features.

2. Data processing—4 periods (Theoretical)

i) File based and DBMS based data processing

File creation File Access

File Manipulation and Maintenance

File in BASIC (Sequential only)

Concept of data based language

3. Project word—10 periods

Candidate will be required to submit two reports, each of about 8 pages including diagrams, as follows.

i) A short report on the design and preparation of a programme for a user this should include :

a) The user's Specification

b) A restatement of the problem from the programmer's point of view and the programme specifications :

c) Description of the algorithm :

d) The programme (suitably annotated)

e) Evaluation of Computer results

ii) A short reporting on the testing of a file-handling programme (using Sequential files in BASIC) this report should include :

a) Specification of the programme design

b) Details of relevant files Suggested Application areas :

i) Computer Aided Learning/Instructions

ii) Computers in Bank

iii) Computers in Household application

iv) Computers in Commercial Organizations

v) Computers in Industry

vi) Using laboratory date of verify a law or principle in Science, e.g., Newton's laws of motion, cooling curves for various substances OR other suitable projects.

4. Either I. Computer communication and Internet

or

II. Uses and application of MS office package

5 periods (Theoretical) + 5 periods (Prac.)

I. Computer communication and Internet

i) a) Basic of Computer networks

LAN

WAN

b) Internet

Concept of Internet

Application of Internet

c) Service of Internet

www and web-sites

Electronic mails

Communication on Internet

ii) www and web Browsers

a) Web Browsing software

Internet Explorer

Netscape Communicator

b) Surfing the Internet

giving the URL address Search

Moving around in a web-site

Printing of saving portion of web pages

Down loading

c) Charting on Internet

iii) E-mail

a) Basic of electronic mail

What is an electronic mail

E-mail addressing

Mail box : Inbox and Outbox

b) Using E-mails

Viewing an E-mails Sending an E-mail Saving mails

Sending same mail to various users

c) Document handing

Sending Gift copy as attachment Enclosures to e-mail

Sending a portion of document as e-mail

II. Uses & Application of MS Office Package

a) Introduction to Access...

Concept of database creation & manipulation using Access, Table creation, addition of field data entry, data manipulation, report generation.

b) Introduction of Excel...

Concept of spread sheet, programming spread sheet, inserting data & formula in cells, populating data both from database and from keyboard.

c) i) Use of Access tin creating database for your school/village,

ii) Use of Excel for creating mark sheet. Bills etc.

- **EQUIPMENT NECESSARY (with proper arrangements for maintenance)**

1. Pentium/Celeron 32 bit with 64 MB RAM, 8.4 GB HDD, 1.44 MB Floppy, CD Drive, Mouse, Keyboard, 14" SVGA Colour Monitor with preloaded Windows 95, 98 & NT, MS Office (This should also include Q basic) ...3 Nos.
2. Dot matrix printer SO columns

   or

   Laser Printer.
3. Those offering 4 (1) must have internet facility.

• MARKS DISTRIBUTION Full Marks... 100

A. Theoretical...70 MARKS

Topic Title	Marks allotted
1. History of Computer	2
2. Binary State	6
3. Elementary Boolean Algebra	3
4. Structure of Computer	3
5. Representation of data/information concepts of data processing	3
6. Introduction of Window	3
7. Basic Dos Commands	3
8. Elements of Word processing	5
9. Software and Languages	3
10. Flow charts	2
11. Programme in Basic (Preliminary topic)	12
12. Programme in Basic (Advanced topic)	16
13. Data Processing	4
14. Either Communication and Internet or Use and application of MS office Package	5

B. Practical...20 Marks

Topic Title	Marks Allotted
1. Introduction of Windows	2
2. Basic DOS commands	2
3. Elements of Word Processing	3
4. Programming in BASIC (Preliminary topic)	5
5. Programming in BASIC (Advanced topic)	5
Either Computer Communication and Internet or Uses and application of MS-Office package	3

C. Project Work.... 10 Marks